



PUBLISHED ON THE FIRST DAY OF EACH MONTH BY THE

Hydro-Electric Power Commission of Ontario

ADMINISTRATION BUILDING
190 UNIVERSITY AVE.
TORONTO

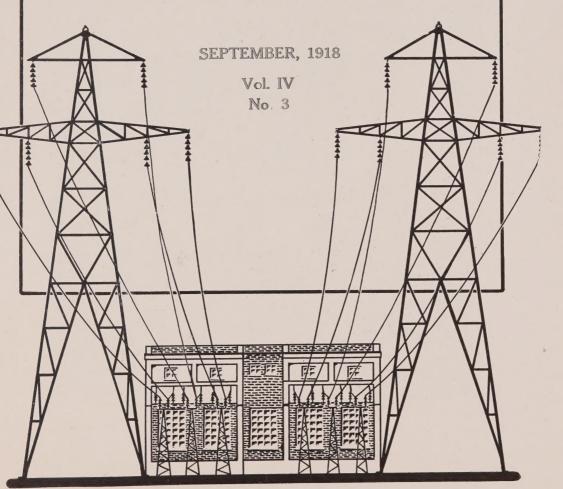
SUBSCRIPTION PRICE: ONE DOLLAR PER YEAR

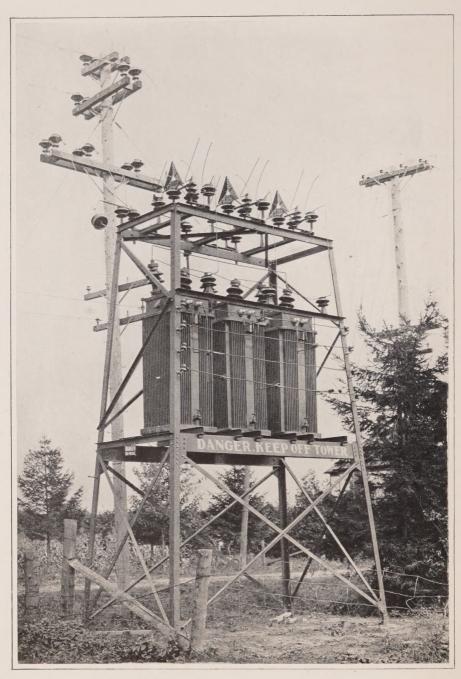
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Outdoor type sub-station at Leamington
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# EDITORIAL

## Brighten up Your Window



HIS is the season of the year when your show window should do the most work for you. There are more people on the

streets now than in the cold weather and your chances of sales through an attractive window trim are proportionately increased. There is an old household saying that "Cleanliness is next to Godliness," and nowhere is this more applicable than to window display work. Many an otherwise good looking window display has been utterly nullified by a fly-specked and dust-stained window. The same is true of the interior of the window and the background. All of the display and of

course the contents—must be spotless. The nickel plating on the appliances should be rubbed with a soft cloth every day or so too.

It is well to remember in trimming your window that a good display does not depend upon the number of articles shown. In other words, don't crowd your window. And, also don't have your window look skimpy. The show window is to a certain extent an index to your stock—at least in the onlooker's mind. Try to make each of your displays drive home some real message. Plan your display just as if you were going to tell a story. Then you'll be sure that your idea is plain.

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## Will You Help Us?



doubt all of our readers have noticed our new cover design. For some time we realized that the old cover did not do just-

ice to THE BULLETIN and after some thought we evolved the present cover.

The nucleus of the idea is the monthly presentation of some typical

hydro-electric feature. At present we are using water power views both developed and undeveloped.

Our readers can help us a great deal by keeping on the lookout for good water power views and sending them to us. We are especially desirous of obtaining good scenic effects and will welcome any contributions of this nature.



## The Essex County System

By J. J. JEFFERY

N JUNE 1, 1918, the Commission took over the distribution system owned by the Essex Light & Power Company, which com-

pany is controlled by the Detroit Edison Company. This company was operating in Essex County and supplying power to the municipalities of Amherstburg, Leamington, Kingsville, Essex, Harrow, Cottam and Canard River.

Power was supplied to the system by a low pressure steam turbine set located in the plant of the Canadian Salt Company, at Sandwich.

The demands for power in the Essex County district supplied by the Essex Light & Power Company having increased from time to time, the company was unable to continue to supply power to the increasing loads from their existing steam plant, and the municipalities having on various occasions applied to this Commission for relief, negotiations

were entered into with the Detroit Edison Company for the purchase of this entire system, having in view the elimination of a duplication of systems in the district.

After coming to an agreement with the Detroit Edison Company, on the recommendation of the Commission an Order-in-Council was passed approving of the purchase under the provisions of the Power Commission Act, 7 George V., Section 3, and the issuing of the debentures of the Hydro-Electric Power Commission in the manner and amounts set out in the agreement, also directing the guaranteeing of the same by the Government pursuant to the Power Commission Act.

The amount paid for the System was \$226,000, \$200,000 being in 4 per cent, 40-year bonds, and \$26,000 in 5 per cent—10-year bonds.

The following is the approximate population of the towns supplied—Amherstburg, 2,560; Leamington, 3,652; Kingsville, 1,427; Essex, 1,353;

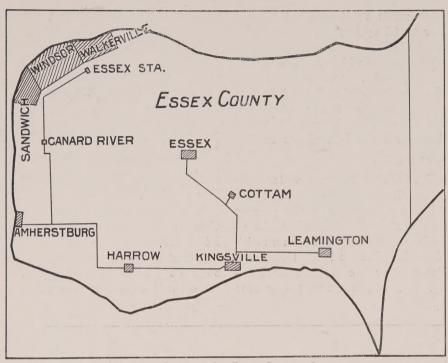
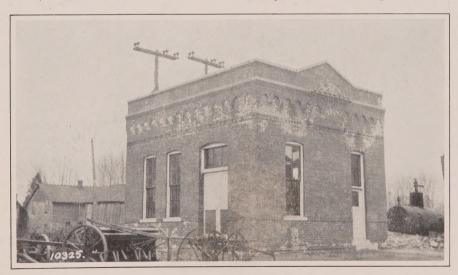


Diagram showing the Essex County System

Harrow, 375; Cottam, 100; Canard River, 50.

The system is at present 60 cycle, three phase, and arrangements are



The Kingsville sub-station

being made to change the system over to 25 cycles; the power to be eventually supplied from the Commission's Essex high tension station at 26,400 volts. Arrangements have been made by the Commission to secure 60-cycle power from the Canadian Salt Company's steam plant until the first of the coming year.

The high tension lines, which have a total length of approximately 58 miles, are operated at the present time at 22,000 volts and consist of single circuit No. 1/0 aluminum with triangular construction, using 35 foot eastern cedar poles and 160 foot spacing. It is intended that the present

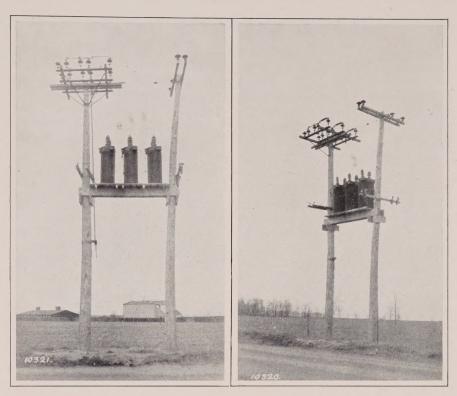
lines should be used without change for the 26,400-volt distribution.

The sub-stations at Amherstburg and Kingsville are of first-class construction and the present high tension oil switches and lightning arresters will be suitable for use on the higher voltage, it being necessary to change only the transformers and a very small amount of metering equipment to make the stations suitable for 25 cycles.

The stations at Harrow, Essex, Cottam, Leamington and Canard River are of the outdoor type, and it is intended that the same type of station should be used for 25 cycles, although three-phase transformers



Sub-station at Amherstburg



Two views of the pole type sub-station at Essex

will be used instead of the single phase outdoor type as at present.

The town of Leamington was originally supplied from the Kingsville sub-station at 4,000 volts; this line being built along the Lakefront Road. However, a high tension line has since been constructed between Essex and Leamington in the next concession north, and there is now a 4,000-volt tie line between Kingsville and Leamington.

Owing to the fact that the climate on the Lake Shore is much similar to that in the Niagara Peninsula, there is considerable intensive farming in this district and there are quite a large number of customers between Leamington and Kings-

ville supplied from the 4,000-volt connecting line who use the electric power for pumping for irrigation purposes.

The present load on the system is approximately 500 horsepower, and it is expected that as soon as sufficient power is available at Niagara Falls a very considerable load can be secured on this system as there are a number of large customers who having been deprived of the use of natural gas for power purposes are forced at the present time to use coal at high prices.

The system will for the present be operated directly by the Commission under one manager who will have headquarters at Leamington.

### Talk at Convention Dinner

By GEORGE C. ROUGH

President, Packard Electric Company, St. Catharines, Ont.



OU have all heard it remarked that a salesman is born — not made. Well—he has got to be born first anyway, but he is not

interested in anything electrical for a long time after that event, unless perhaps, depending on circumstances it might be an electrical baby bottlewarmer.

I have noticed during my experience extending back for the past 80 or 90 years that the majority of salesmen who have attained any degree of success, are men who have, early in life, been thrown on their own resources, and have, by the absolute necessity of things, become observant as well as keen judges of human nature; able to adjust themselves to any circumstances and adapt themselves to almost any conditions—whether it is washing dishes. minding a baby, attending a theatre party, or climbing a pole. Men whose constitutions are like iron so that hours do not count if any object is to be gained whether it is work or play. Men like Carnegie, Schwab, Leacock and so on.

No—salesmen are not born as the saying goes. They have to work it out for themselves—and work is what counts.

On the subject of adaptability I am reminded of a story. It is related about one salesman in the early days, who had been working on a deal for a small generating plant

way down East. He had spent some time on it and hadn't made any great headway. At last he was invited to the home of the intending purchaser for tea one night, and he thought that was going to be his opportunity. They thrashed out the matter together all evening but he couldn't get the old man down to signing the contract. He was much surprised, and taken unawares to be asked. before leaving, to conduct family prayers, but, nothing daunted, and having forgotten everything else but "Now I lay me," started in on that, but recovering himself after a few moments silence, began again with an earnest request for showers of blessings on the old man, the old woman and all the little ones, the horses, the cows and the crops, winding up by asking God to put it into the heart of the old man to give him that order.

A salesman who is naturally observant starts out with a big asset. If he has to call on a customer who has the reputation of being crusty and unapproachable, he naturally gets on pins and needles when, after waiting half an hour while the customer reads the morning paper, and who does not want to be bothered with him anyway, finally condescends to look up and say: "Well, Wh— What do you want?" If the salesman can only hit on some subject to make him forget his grouch, he may land him for a nice little order. although the customer may not have

considered purchasing anything just at that time. For instance—You will have noticed, if you are observant, that all the desks in the office are beautifully polished well taken care of, old fashioned designs of solid walnut, and that no modern furniture is in evidence not even a typewriter. You immediately come to the conclusion that you have hit a hobby, and you don't begin the conversation by boring him with details regarding the superiority of quality, the efficiency or even the extremely reasonable price of the apparatus which you may be selling. You at once begin by saying—"Pardon me, Mr. Smith, I have been admiring that desk of yours. May I ask if it is an heirloom. It is beautifully finished. Solid too." Then you rub its legs and wait for the strike. It comes like a trout after a fly, and with a little skilful handling you've got him; and when you have taken him out to lunch and he has driven you to his home in an antedeluvian buggy to admire some more of his antiques, he finally lets you go with the order in your pocket, and you feel that he is your friend for life.

The man to see in the next town may be the owner of a plant. Possibly he has been a miller all his life and has just got a franchise for lighting the town and is doing all of

his own work. You arrive and find him up a pole trying to connect a transformer. He hails you with the greatest delight, and you know at once that you've got a job, and you are lucky if you know how to connect up your own transformer, to say nothing of climbing a pole.

Some salesmen climb poles—Some don't—Some fall off.

There is never any monotony in the selling game. It is a game, and you play it notwithstanding disappointments or joys, successes or failures, and you have got to be a regular Harry Lauder for cheerfulness and optimism. To use a slang expression "Sob Stuff doesn't get you anywhere."

Of course, naturally, there are predicaments. An old Scotchman had visited a friend in town who had laid in a stock against the dry season of which both had partaken very liberally. He had managed to get as far as the brass railing in front of the ticket office window on his way home, and was hanging on for dear life. The agonized look on his face prompted the ticket agent to ask if he could be of any assistance. The Scot, in a hiccoughy, wabbly way, usual under the circumstances said "Eh Mon I ken if I stay here I'll mis ma train, but if I let go I'll fall doon-I'm in an awfy predicament."

#### 

### "The Convention"

Ma fren', Narcisse Leblanc, who was work for me couple year 'go as de helper, an' afferwar' pass on Kebec an' was de forman on de beeg gouvernment contrac' dere. He com' on ma plas' os' wick for mak' de leetle visit.

Narcisse—he all de tam' is never

satisfy for stay on plas' ver' long. He is work mos' ev'ryw'ere on de Province. Alway spick 'bout de beaucoup experience was makin' you t'ink hees de beeges' man on de electricitie bizness.

Las' year he got de new twin on hees house, an' firs' t'ing he tell hes wife—"Am nam' dat boy 'Edison an' Marconi.'" Hees wife, she say, "Non Non—Mon Dieu—we mus' ave French nam' for dat boy." "Correc' "—Narcisse is say right off—"We call heem 'Volt' an' 'Ampere.'" I suppose de nex' pair will be "Ohm" an' "Watt," but he be up spout for sure if dey come girl, unless, mebbe, he t'ink "Rontgen" an' "Violet" not too strong for de wife.

Wall-He com' on ma plas' ver' much excite. He say— "Ba'tiste, you one beeg gool for stay home all de tam'." "W'at for you don' be lak' mese'f? I'm travel ev'ryw'ere; get acquaint; pick up de new idee, an' all de tam' am collec' information dat's good for de bizness." He hit hees ches' two t'ree tam' an' say- "Look at Me''-"You t'ink am bodder wit' de small job lak' you'se'f?'' "NO SIREE." "Only de beeg job for de beeg man." "Am axin' you-Are you goin' be satisfy put in de bell an' de batterie all you' life?" An' den he poun' de table an' say "You got com' wit' me right off, toute suite, to de beeg Convention an' I show you som't'ing mak' you ope de eye." "Len' me twenty-five dollaire an' we go. Eh-W'at you say?"

I say—"Narcisse—You com' de wrong tam' for dat." "Am ver' busy wit' t'ree beeg contrac,' beside fifteen-drop annonciator for de hotel, an' it no use t'ink mak' dat trip."

He laf so 'ard he near choke, so am got geev him beeg drink whiskey blanc. Sam' tam' I tak' good one mese'f. He say "I'm leffen dat kin' job to my 'prentice." "My time is wort' more dan twenty een' on de hour." "You hear all dem pape' bout "Fishcient Bizness," "How to Bor' de Hol'," "How to Read de Meter," an' plenty more.

We tak' nodder leetle drink an' den talk som' more, till by'n by am begin for feel mor' beeg dan Narcisse, so I say ''Correc', Mon Vieux, WE GO.''

Ev'ryt'ing arrange, nex' night we catch de Express an' pass on de Pullman. 'Fore goin' bed, Narcisse he mus' 'ave smoke an', of cors', leetle drink. He alway carry de flask on de hip. Wit' de help two traveller feller, was talk mos' hard as Narcisse, de flask is empty, so am go onma portmanteau for bottle "square face," an' de talk get so plenty, de niggerman com' an' say som't'ing 'bout "keep'n de family 'wake.'' So, affer de bottle she is finish, an' no more t'ing to decide, we pass on de bunk get leetle sleep, for Narcisse he say "To-morrow we be ver' busy at de meet."

Nex' morning we don' feel too gay, but we go on de char a la manger get w'at you call de "bracer," also de egg an' one glass milk, cos' mor' dan hol' wick's board, an' pretty soon we 'rive on de city.

Narcisse he holler 'bout som'ting mus' be lak' de Roman, an he not walk to de hotel—only four bloc'—Mus' drive on de moto' all close' up mak' it 'ard for get out. Am scare all de tam' we mak' de collision or

mebbe keel som't'ing. GOOD LUCK—We 'rive de hotel O.K.

De door is onlock by beeg feller all dress up lak' Salvation Army, an' hees leetle boy is com' try tak' ma portmanteau. De driver jus' say "Two an' half" an' den turn de crank on hees clock. Narcisse is 'way by dat tam', an' I see heem try get t'roo de door lak' de carousal. but I catch heem on de sam' turn an' nearly get stuck, but feller com' out is push 'ard an', voila, we get inside ver' queek. I whisper— "Narcisse de monee go plenty fas', we can' stay here too long tam'.' Anyhow we pass over by de counter an' write de nam' on de book, an' dat boy hees try tak' ma portmanteau once more. We come on de elevator an' she shoot up so fas' am t'ink for sure we goin' hit de sky. De room is Neuf cent quatre vingt dix-neuf. 'Member dat well, 'cos dat night, ev'ryt'ing up side down, am try get in 666. Wall, de boy is ope' de door an' Narcisse geev heem ten cen' for bribe so he go 'way an' lef us dress up. Suppose de boss tol' heem watch us so we don' steal som't'ing.

Affer 'while we go down dat elevator to de basement w'ere Narcisse say is de bar, an' so soon we com' on dat plas'—all marble an' nice brass rail for res' de foot—she is pack wit' feller is all smoke plenty cigar an' cigarette an' talk so loud I can't hear de tune de boss is play on de catch register.

Narcisse 'ave lot frens tan' heem treat, so we stay dere long tam' an' am try ev'ryt'ing lak' de "Martini," "Manhattan," "Bronx," "Ol' Fashion Cocktail." De beer is pretty good too, but don' lak' dat "Bla Bla" an' am scare for dat "Grape Juice." Sorry dey got no Whiskey Blanc.

#### Anyhow WE GET ACQUAINT.

W'en we get tam' for go eat, we pass on de beeg room all feex up more grand dan de Chateau, an', right 'way, am begin for fin' out it pretty 'ard job get mor' dan pea soup for twenty-five cen'. I don' lak' de waiter hang roun', an' de ban' is mak' such 'ellofarow can' hear you'se'f eat. So I say 'Narcisse, to-morrow we eat on dat plas' w'at dey call L'enfant.

Sat night we go de show, an' affer de show we go on de roof an' see 'nodder show, also de danse.

Am wake up nex' morning in 999 all right, but am feel ver' bad. Narcisse he spik on de telephone an' he tell dat boy bring up two Collin. Den he say "Ba'tiste get up queek, for we go see de ball game. De Wiremans is goin' play wit' de Plombier— Plenty Fun. Den we go see de Beeg Parade, an' den we et back in tam' for de Banquet. Affer de Banquet you got take de Nishiashon, an' affer de Nishiashon---' I say "Hol' on, Hol' on— w'en we goin' hear dem lecture tell how Mak' de Fishcient Bizness, Bor' de Hol' an' Read de Meter?" "Oh," he say, "We read all bout dat on de book w'en we 'rive back on home." Den he geev leetle laf an' say, "Ba'tiste—don' forget look on de newspaper 'fore you go for mak' sure you 'ave not de date wit' de undertaker."

Ba Gosh am' scare me, an' I say, "Narcisse AM T'ROO, AM go home— Ba Oui—Right off. Not stay for all dem t'ing, 'cos I don' wan' come dead 'fore ' finish put up dat annonciator."

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Now-a-days neither the manufacturer nor the jobber have as much money to spend, and we salesmen consider ourselves fortunate and honored to receive invitations to your gatherings, privileged to listen to your papers and otherwise enjoy your hospitatliy.

Quebec was the ideal spot for conventions. The summer nights were so short that if you stayed up all night you didn't miss much sleep, and the air so bracing and exhilirating that if you didn't go to bed for a week, you didn't feel any the worse, and when you got home Monday you were as fresh as a daisy and ready for the office.

At the time the Q.J.C.E. Co. started in opposition to the Q. Ry. L. & P. Co., there was a big rush, owing to cut rates, in house lighting and everybody wanted electric light. The result was that all the plumbers in town started in to do wiring. Of course that attracted all the supply salesmen, and they were all on the job like a flock of vultures. In order to do business it was first necessary to make an appointment with your plumber and you had to do that before he left his shop at 7 in the morning, or wait until after 8 at night, when, if somebody else hadn't got ahead of you, you were taken up

to the parlor, upstairs above the shop, treated to whisky blanc or square face, and perhaps the net result would be an order for 50 sockets, 1,000 feet of wire and a couple pounds of tape. You got back to the hotel about two in the morning, leave a call for 6 and repeat the performance next night with varying degrees of success.

Of course there were larger fish to fry during the day. We called on all the officials from the general managers down to the foremen of the different departments, gleaning all the information we could for our companies, going over the merits of our goods or apparatus and otherwise having a nice easy time. Like the little boy and the cord of wood. Was asked why he worked so hard. Said he was trying to get through before his saw got dull. We didn't neglect the purchasing agents either.

They tell a story of a purchasing agent of a large concern in Hamilton years ago who happened on a trip to Cleveland. On starting for home he went into the ticket office and asked for a ticket to Hamilton. The agent said, "Hamilton, Ohio, or Hamilton, Ont.?" The purchasing agent in an absented minded way said, "Which is the cheapest?"

Now that is only a story, and I wouldn't warrant that it is founded on facts. At all events these days you are dealing with a well informed individual when you tackle a purchasing agent. He knows as much about your line as you do yourself. And I find that they generally play a better game of poker than they did in the old days.



## Heating and Cooking by Electricity



E learn from the *Irish*Builder that in a circular letter to their clients the firm of Messrs. G. N. Haden & Sons, Dublin, say

that as some firms recommend the use of electricity for heating and cooking, they take the opportunity of pointing out the waste involved by such a system in these days, when fuel is not only so costly, but is getting more scarce every year. They quote a statement by the chairman of the Dublin Tramway Company, to the effect that by the introduction of new coal-saving devices they were now able to generate 14,309,000 units by the consumption of 21,996 tons of coal. This is equivalent to 650 units per ton of coal, so that out of every 100 tons of coal consumed, only 8 tons can be effectively utilized for heating purposes. Messrs. Haden add that they feel sure that these figures will convince people of the enormous waste involved in heating and cooking by electricity, without going into the further inefficiency by losses in transmission etc.

On the other hand, it is a significant fact, as shown by Mr. H. C. Hopkins in a paper on "Electric Cooking and Electric Ranges," which he recently read before the N. E. L. A. at Reno, that in spite of the war, with its attendant rise in prices, and the fact that power companies as a whole have not pushed their domestic business, electric range saleshave steadily increased throughout the U.S.A. In this country the same phenomenon has taken place, and, in addition to numerous very large installations in the provinces, we can point to the National Kitchens established at Poplar and in New Bridge streets respectively, where public appreciation of their advantage has been manifested by their rapid growth in popularity. The results that have been obtained are all that could be desired, and

the success of these establishments is assured. Inspectors from the the Ministry of Food, while preferring steam for boiling on the score of economy, cannot speak too highly of the merits of electric cooking, on account of its cleanliness, convenience, uniformity, and other well-known advantages. In particular, they fully endorse the claim that the electric oven effects a material saving in the case of meat, besides retaining the flavor and succulence of the joints in the highest degree.

The advantages and benefits to be derived from the use of electric ranges are numerous; they are sanitary and clean, and the products of combustion—ashes, soot and fumes -are entirely eliminated, with a resultant saving in labor and cost of house cleaning. Practically all of the heat generated is used efficiently; cooking can be performed with mathematical precision, eliminating guesswork entirely, due to the perfect control and easy regulation of temperature. The time ordinarily spent in watching the cooking of food in a coal or gas range is considerable, and can be saved when cooking is done by electricity. The saving in meat shrinkage is quite considerable, an important feature in these days of food shortage and high costs; and lastly, the quality of the food cooked is greatly improved, the natural flavors being retained instead of being allowed to escape with the products of combustion.

Statements issued by Messrs. Belling & Company, show that to cook 100 pounds of meat in a coal range

requires 100 pounds of coal; in a gas range, 30 pounds of coal in the gas works, and in an electric range, 25 pounds of coal in the electricity works.

If only half the total amount of roasting and baking done each day were done by electricity, the daily saving would approximate 10,000 tons of coal. With regard to meat saving, they say that every 100 pounds of raw meat cooked in a coal range weighs 86 pounds when done. The same amount cooked by gas weighs 70 pounds and by electricity 90 pounds when finished. If only half the total weight of meat consumed each day were cooked by electricity, the daily saving would be approximately 350 tons of meat.

Then we have the statement set forth in a leaflet distributed by the engineer and manager of Horsham U. D. C. electricity works to his customers, that cooking for a family of 10 with a coal fire from June 1915, to June 1916, consumed 43/4 tons of coal, whereas from June 1916 to June 1917, cooking by electricity, the coal consumed at the electricity works amounted to only  $1\frac{3}{4}$  tons, showing a saving of 63per cent. Similarly in a household of seven persons, the substitution of electric for coal cooking in 1917 resulted in a saving for 12 months of 64 per cent. Other examples showing the saving of meat are also quoted.

The pity of it is that very few people seem to be aware of these astonishing figures, and the vast saving which can actually be effected. Those in the electrical industry do not push electrical cooking for-

ward as they should do, and those outside the industry seem to try to retard it. Why is there not some co-operative movement amongst manufacturers to drive these points home, when it is so obvious to all who are willing to see it that electric cooking effects an enormous saving in coal, labor, and many other ways? While the conditions may not be favorable at the moment for such a movement, at any rate preparations should be made to set it going at the earliest opportunity.

Any device that will add to the safety of the house is commendable. The use of electricity for heating displaces matches and open fires; there is no gas to explode and no flame or flare-up to start fires or to burn the operator. No business man would think for one moment of going back to the old office methods and discarding the use of modern labor-saving devices such as typewriters, billing machines, and adding machines. These devices are considered necessary to the proper and efficient management of one's business. Electricity in domestic service is simply a modern labor-saving device-saving also money, time and worry—and, therefore, should be considered as part of the modern housekeeper's equipment.

The points cited above, and others which are readily available, should be thoroughly understood by the range user or prospective user. Any sales campaign or sales effort calculated to promote the use of electric ranges must of necessity be of an educational nature. Unless the advantages of electric cooking are thoroughly understood and appreciated by the customer, the inevitable result is that the user limits his inquiries to a comparison of the cost of operation with that of the fuel previously used for cooking.

The result of such a comparison is not always favorable to the electric range, particularly where the cost of electricity is higher than one penny under pre-war conditions per kilowatt hour. The customer does not think of comparing the cost of his electric light with the cost of gas or oil lamps, simply because he thoroughly understands that he is obtaining a better and greater convenience than he formerly enjoyed. and this represents to him a definite value in personal comfort and physical well-being.—The Electrical Review (London).

# Electro-Thermal Lightning Arresters



HIS editorial summarizes an article by S. W. Schweitzer on a new type of lightning arrester which has been developed, which

might better be described as an

adjunct to the ordinary electrolytic arrester.

The article deals with certain defects which may occur in an electroltyic arrester and with devices intended to obviate them.

If the electrolytic arrester fails

for any reason, to suppress the dynamic arc very promptly, it becomes heated and thereby weakened, so that it may even break down and become destroyed. To guard against this contingency, an electrolytic cylinder is inserted in series between the electrolytic arrester and the spark gap. The cylinder is of bakelite with metallic ends through which pass metallic rods terminating inside on carbon electrodes of special forms. The cylinder is part-

ly filled with electrolyte and is provided with an escape pipe into a reservoir of electrolyte and also with a needle valve relieving into the air. If the flow of the dynamic current through the arrester, cylinder and spark gap is excessive, the heat within the cylinder, generated electrically, will force out the electrolyte into the reservoir until the upper electrode is denuded and the discharge circuit thereby opened.—*Electrical World*.

## The Oxide Film Lightning Arrester



HIS editorial reviews Dr. Steinmetz's A.I. E.E. paper on this new and important type of arrester.

So far as alternating current circuits are concerned, with the older types of arresters, the principal problem in most cases has been to check the discharge by the use of non-arcing metal which prevents the starting of the current from zero after the first discharge, so that whatever short circuit exists is limited to a half wave of the normal period. Such arresters have usually been made with many gaps in series and, in latter times with shunted gaps the better to take care of moderate discharges through a direct resistance to earth while leaving a clear track for the heavy lightning discharges. For circuits of great power and capacity multigap arresters soon proved insufficient, for on a discharge, high frequency oscillations were set up which kept up a repeating short circuit over the gaps, frequently burning up the arrester itself.

Following devices of this kind, came the electrolytic arrester, which is familiar to all the readers of THE BULLETIN. This arrester has operated under widely divergent conditions in many localities and has many admirable features but has its failings, the chief of which is the fact that it requires forming and a considerable amount of attention and inspection, in order to keep it in first class working order. It also has to be abandoned in situations where it is exposed to very low temperatures, merely from the fact that it does contain an electrolyte. Practically, when in first class working order, it becomes a selfrepairing electro-static condenser, letting over-voltage by, while block\_

ing the main discharge, which is the source of danger in lightning arresters.

The new arrester operates very much on the same principle, i.e., it works as a self-repairing condenser but, containing no electrolyte, it does not require to be formed and is always ready for action. When installed it is already formed and keeps itself in condition. Essentially it is built up like a condenser of metallic electrodes and sheets of compressed lead peroxide with contact films of a lower oxide to serve as an insulator. Ordinarily only a trivial leakage current can pass, but when attacked by over-

voltage, the insulating film punctures and then repairs itself by the action of the discharge. The combined cells are hermetically sealed so that they can be used out of doors if merely protected from rain, and they have now, in experimental use for several years, shown a high degree of efficiency.

The oxide film arrester appears to be a very material improvement over the electrolytic type, in compactness, reliability and particularly in lack of need for the rather careful attention which in the earlier device was the price of security.—

Electrical World.

# Interesting Range Policy of Company in the Southwest



CENTRAL station company in the Southwest, operating in a city which is enjoying considerable building activity at the present

owing to an oil boom, has adopted an interesting policy in regard to electric range sales. While this company's sales department on the whole is somewhat depleted, it has continued to let one man devote his time entirely to selling electric ranges. He spends his efforts principally in working on the builders of new homes.

The company figures that it will have to serve these homes with

electric light, which will necessitate running a service, and that it might as well get a customer who will give it \$50 a year revenue as one who will only give it \$18. The company is also of the belief that the difference in cost of running a service for a lighting load and running a service for a range load on new construction is not material. Hence it keeps this man "plugging away" on home builders, endeavoring to sell them the electric cooking idea and to get them to install an electric range as a part of the original equipment." - Electrical World.

## Who's Who in Hydro?

C. C. Folger

S

OMETHING over twenty years ago, on leaving the Collegiate, I started to work for the old Electric Light & Gas Company, read-

ing meters and delivering bills. The company at this time was under private management.

I stayed with the company two or three years helping in the office, reading meters, etc. I then left and went to Queen's College for a year, when I accepted a position with the Hammond, Reef Gold Mining Company, operating in the Rainy River District, where I operated the stamp mill for a year, returning to Kingston at this time. I

went back to the Electric Light & Gas Company repairing electric meters, arc lamps and transformers.

After a couple of years in this capacity, I was promoted as assistant to Colonel John Kerr, then superintendent of the gas division of the company, and upon the retirement of Mr. Kerr, was made superintendent, occupying this position at the time the old Electric Light & Gas Company passed from the hands of private ownership to municipal control.

In 1907 the municipality decided to consolidate the Gas and Electric

Departments under one superintendent and I was appointed to this position under Mr. J. M. Campbell who was then general manager of the two departments.

Two or three years later, on Mr.

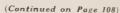
Campbell's retirement, I was made general manager of the two divisions and in 1912 the city decided to couple up the water department with the other utilities. In addition to looking after the operating and distribution of the

entire Water Department, this department carried with it, the building of drains and sewers covering new installations, such as factories and houses, etc.

With the addition of the water-

works, the city had now all its utilities under one Committee of Council and I was appointed by the Council as general manager of all departments which position I am holding at the present time.

In 1917, an agreement was entered into between the Corporation of Kingston and the Hydro-Electric Power Commission of Ontario for a supply of power to operate the different utilities. Energy was delivered in December, 1917, and the electric plant and the waterworks pump house are now being operated under Hydro power, furnished from





By J. F. S. MADDEN



HE August number of Electrical Merchandising fairly vibrates with live suggestions to the electric wiring contractor and appliance

dealer in preparation for the September "Conservation Campaign."

It is to be regretted that on account of the power shortage many of the towns in Ontario will not be able to take full advantage of this movement. It should be heartily endorsed by all managers, and where possible, full co-operation given.

The splendid results obtained in many localities in the sale of electric ranges must appeal strongly to municipal engineers in towns where the connecting up of range customers entails extending primaries and hanging new transformers to give service. In such towns a careful study of the situation should be made and a serious effort put forth to sell ranges in groups of four and five.

There is little likelihood that the fuel situation in Ontario during the

coming winter will show any marked improvements over that of last year. In consequence, the demand for electric heaters is certain to be a heavy one.

With the continued power shortage in certain towns some local managers will feel concerned at the number of small heaters being connected, and will be interested in the diversity factor on a load of this nature. Our Statistical Department will be glad to receive data which may be of interest in this connection.

Some thought has been given to the possibility of connecting circulation water heaters on electric range services with provision for using the heater or range alternately, by means of a double throw switch.

We should be glad to hear from municipalities where such an arrangement has been successfully used.

The following extract from an article by R. E. Flower, of the Erner Electric Company, Cleveland, Ohio, which appears in the August number of the *Electrical Merchandising* is of interest:

### "Electric Shop Should be Simple and Attractive"

66 7 DO not believe in elaborate lelectrical stores. Our electric appliance shops of to-day should be on a war basis. They should be attractive, of course, but their attractiveness should assert itself in their simplicity. They should be trimmed of all the frills and fancies that often creep into them. I have known of electrical stores planned in the form of completely furnished bungalows at great expense. In these well-appointed cottages have been boudoirs, every detail of which was perfect—from the overhanging French cretonne draperies to the four-poster bed-all done for the display of a baby's milk warmer, a heating pad, and possibly mi-lady's massage machine. What a waste of space and money on articles of little merchandising value because of their slow turnover.

Make your electric shop a wartime electric shop. Give your most valuable space to the labor-saving electrical necessities that should be in every home. I don't mean to minimize the usefulness of the smaller appliances, but the washing machine, the electrically operated ironer the sewing machine, the vacuum cleaner and the electric range or fireless cooker are the necessities of the day as lighteners of home labor—the appliances that the successful merchants are selling.

## Plan Window Displays, and get Motion into Them

Display windows are important factors and should be carefully planned. See that they are of sufficient size for actual demonstrations. If

you have two small ones rearrange your entrance and put in one large window—and then use it. The windows of any retail merchandising establishment in your town are sufficient testimony to their value. Change the displays often and don't forget that motion catches the eye and makes many a sale.

In arranging your interior display put the labor-saving appliances in the most prominent place, where customers coming into your store must see them. Keep the lamps and fuse plugs in the rear; people will find them no matter where they are.

And just a word about your appliance display. A washing machine in itself has little attraction for anyone. Place it before a pair of neat laundry trays. Put water and soap in it and keep it running. The creamy suds will attract everyone to it and elicit questions that will give the salesman his chance to get the name of the prospect.

The same is true of the ironing machine. Have it near the washer. Connect it up, both for gas and electricity, so that you can operate it on a minute's notice. At its side should be a clothes rack upon which are a number of articles neatly laundered and ironed. A boy's rompers, pajamas, house dresses and aprons, a negligee shirt and like things convey to the mind better than you can tell that this machine will iron 85 percent of an ordinary wash.

Then comes the vacuum cleaner. Display it on a table using a piece of good carpet or rug for demonstra-

tion. This gets the machine up in a good position and the salesman make the demonstration more at ease.

The electric sewing machine has its place in every home. Put it on a neat stand with a chair provided so that a lady may sit down and operate it herself. She knows the drudgery of the foot-power machine and will appreciate in a minute the advantages of the electric machine. These are self-evident bits of good merchandising, but how many electric stores use them?

## Training Salespeople is the One Big Problem

The salesman is your one big problem. Clerks can be had in any numbers, but it is going to take some serious, thoughtful work on your part to make salespeople of them. This one thing is probably the cause of more failures in the selling of electrical merchandise than any other.

The other day I went into the electrical department of one of our large house-furnishing stores and happened to stop by the washing machine. As I was looking at it a clerk approached and said "Are you interested in an electric washing machine?" I told him that I was, slightly, and he said "Let me tell you about this machine. It is a great device. It washes clothes."

"Fine," I said, "but where do you put them." "Oh inside this cylinder. It then revolves six and a half revolutions in this direction and then goes in the other direction six and a half revolutions. The machine is \$125. Can't I send one out?" and he looked at me as though

he expected me to shell out one hundred and twenty-five perfectly good simoleons at once and give him my address for delivery.

I told him I wanted to know more about the machine. How did it get the clothes clean? How long would it take to do as washing? How much would it cost for electricity to run it? and honestly, he couldn't answer correctly one of the simplest questions that any woman would have asked.

He didn't know the dirt in clothes was simply dust particles held together by greasy binder and that the hot water and free alkali in the soap dissolved the greasy binder and that the gentle flushing of water through the fabric caused by the tumbling of the clothes flushed away this dirt without wear or tear on the clothes. He didn't call to my attention that a woman always washes her dainty and valuable pieces of point lace after the same principle by dipping them up and down in a bowl of hot soapy water and that she did so to save wear and tear. He didn't tell me that this saving in wear and tear would mean anything to the housewife or that it would mean anything to my pocketbook through making the clothes last four or five times as long. He evidently didn't know that you didn't wear out sheets sleeping on them or that tablecloths didn't wear out from the pushing of dishes around on them, but that it was the oldfashioned washboard that did the trick. He wasn't aware that he was selling an electric servant almost human in its ability to clean clothes quickly and without the confusion and fatigue that usually accompanies washday.

He never gave me one good reason why I should part with my \$125 and accept in return the greatest labor, time and money-saving device man ever built for use in the home.

#### Sell Appliances on the Basis of the Service They Render

Your salespeople must be educated to sell labor-saving appliances for the service they will give. A man buys a typewriter or a Dictaphone for the service it will render his business and for that alone. So it must be with women in the management of their homes. It is up to you dealers to make the housewife feel her responsibility for the management of her home.

Salespeople must put some human interest into their business. They must sell themselves the need for these things in the home before their enthusiasm can become real enough to carry them far towards the achievement of success in selling electric appliances.

District or outside salesmen are not beneath your dignity if carefully selected, and they play an important part in a large volume of business.

The real, successful merchants are all employing outside men for house-to-house canvassing. This game is still one of education, and only in this way can you reach all of the people in your community with your message. These men can be secured on a commission basis. It is being done with much success. A good salesman produces an average of twenty sales per month. He will establish a nice business as he secures it. Every sale produces

another and the thing soon becomes an endless chain affair, growing steadily almost of its own accord when once well started.

The problem of advertising is one to be worked out to fit conditions. Some successful merchants, for instance, set aside so much per machine for advertising. That is, if the amount is \$2 per machine and if he sells fifty machine this month, he will spend \$100 next month on that particular item.

## Deferred Payments Help Sell Larger Appliances

Appliances such as washers and ironers must be demonstrated, and they must be sold on deferred payments in order to do a volume of business. When sold on time a charge for carrying the paper should be made. Too many dealers sell these things on ten or twelve months' time at the list price and then give a discount from the list price for cash. This is all wrong. Your margin of profit isn't sufficient to stand this. The list price is fair and should be the amount of money you receive. You cannot make a profit selling appliances for less than the list and you cannot sell them on a year's time at the list and make any money. You must make the customer pay for the use of your money and the expense and trouble he is putting you to in asking you to carry his account over a considerable period. Arrangements can be made with the banks in most any city to discount your papers on these accounts. Some manufacturers have even gone so far as to organize finance companies for this purpose and will buy your papers if you sell their product. It

is quite important that you work out the details of financing appliance sales on deferred payments. The rush of business and the rapidity with which these sales tie up capital has been the cause of big worries and much embarrassment to many dealers.

In closing let me repeat that if the contractors and dealers of this country are to keep the electrical appliance business within their grasp, and out of the hands of the little specialty shops and the big department stores, they must organize at once appliance departments along sensible, easily adhered to merchandising principles, with capable well-trained selling forces.

# Selling the Prospect on "What it Can do for Him"



OLLOWING is the opinion of J. G. Jones, sales and advertising manager of the Alexander Hamilton Institute of New York, on

weak points in selling talk and how they may be corrected.

No salesman can succeed without being alert. He must be alert to observe the character of a town as he rides through the streets in the hotel bus on his way from the railroad station. For towns possess character just as do individuals. Some towns are alive and progressive and display a community spirit: other towns are conservative, slow, backward or poorly developed. He must be alert to pick up information here and there about the men upon whom he is going to call, and about the industries in communities in which he is going to sell his line. For the good, topnotch salesman is the man who prepares for his interview through a knowledge of his prospect long before he ever faces that prospect, and oftentimes it is in this information, which he has been alert to pick up, that he finds his point of contact with the prospect.

#### Read the Signs on Entering

He must be alert to read the signs that are flashed at him in his prospect's outer office. He must be more alert to read the signs flourished at him when he gets in the actual presence of the prospect. Is the time auspicious for the interview? Is the prospect more nervous and irritable than usual? Is he snowed in by an unusual amount of work? Is he faced with an unusual problem which will preclude the possibility of his giving the salesman his attention, or are the signs all the other way? The good salesman develops this power of observation, this alertness, until it amounts to intuition. And eventually he gets to a point where his observation is so keen, his alertness so great, that he can discern a hostility even though it be repressed; or sense that he has his prospect with

him even though that prospect may be doing his best to maintain a poker face, just as an actor or an orator knows that he has enthralled his his audience even before the applause breaks.

And I suppose that the power to paint a picture—the power to appeal to the prospect's imagination—the power to paint a picture and put the prospect in it—is really based on this alertness and power of observation; for I have said that it is by alertness and of observation that a salesman finds his point of contact with his prospect, and he cannot paint a picture and put the prospect in it without having found this point of contact.

#### Two Methods of Approach

I wonder how many of you salesmen have heard this at the end of a selling talk: "Yes, you have a good proposition—mighty fine—but what can it do for me? How can it help my business?"

These words will not be new to any specialty salesman.

And let me tell you what has been lacking in your selling talk in every case where you have heard that expression. You have shown that the construction of your proposition, or the manufacture of your article, is right; you have shown its mechanical excellence, or its artistic beauty, as the case may be; you have convinced your prospect that it is meritorious, carefully manufactured, but you have failed to talk in terms of results to your prospect; you have failed to show "what it will do for him". You have failed, in other words, to paint a picture and put your prospect in it. There are two distinct avenues by which a salesman may approach the prospect for a favorable decision. He may, by pure logic and sound argument, appeal to the prospect's reason—to his intellect. Or he may, by positive suggestion and vivid word pictures, appeal to the prospects' imagination—to his emotions.

We are prone to look upon man as a purely reasoning creature who comes to a decision by carefully weighing all arguments pro and con and deliberately deciding whether to do, or not to do, the thing under consideration. We are inclined to explain our own actions according to this theory, either because we thoroughly believe it or because we try to hide what we consider to have been our weakness in coming to a decision without having gone through a reasoning process. For, until recently at least, to allow the emotions to sway one even in an unimportant decision was considered either childish or hysterical. If this were true, the logical appeal to the intellect would be the only one to use as a means of influencing intelligent people.

#### The Imaginative Appeal

As a matter of fact, most of us seldom decide things by the process alone. The man who makes even a majority of his decisions solely by reason is indeed rare. Nor is it true that the ablest men are the most logical men. In fact, the logical individual is likely to be rather cold and austere. The imaginative man, who is ruled by his emotions rather than by his intellect, is usually most success-

ful in handling men and inspiring enthusiasm and loyalty in those about him.

A prominent and well-to-do lawyer in a New England town had in his office a veritable rattle-trap of a typewriter, whose type were badly broken and out of alignment. A typewriter salesman had made several ineffectual attempts to get him to buy a new machine. The salesman pointed out that the old machine would not last much longer anyhow, and that its appearance was not in keeping with the dignity of the office, but all to no avail. The lawyer clung to the old machine. Then one day the salesman sat down in his own office and typed a page of legal cap on a disreputable old machine that he taken in exchange; the typing was blotchy, broken and out of alignment. Next he typed a similar page with one of the newest and best machines in stock. With this material in hand, he called upon the lawyer.

"Mr. Lawyer," he began, "when you go before a jury you are particular as to your dress. You make sure that your clothes are carefully pressed; that your shoes are polished; that your linen is immaculate—and you would never think of appearing in court with your face unshaven. Why? You would be just as good a lawyer, no matter what your appearance. Your arguments would be just as forceful. But you are afraid that a poor appearance might lessen others' opinion of your ability-create a bad impression, in other words, Mr. Lawyer, you don't always get an opportunity to present your cases in person. Sometimes you are asked, to submit briefs. How do you get up your briefs? Like this (showing the poorly typed sheet), so that their slovenly appearance detracts from the forcefulness of their arguments? Or like this (showing the neatly typed sheet), immaculate and pleasing in dress so that they produce a favorable impression even before they are read?"

This appeal to the imagination put the whole matter in a new light. The lawyer in his mind's eye saw the judge pick up his slovenly brief and frown as he glanced at it. He doubtless recalled close decisions where he had lost when, to his mind, his masterly brief had entitled him to win. The sale was made.

A vacuum cleaner salesman had secured the attention and aroused the interest of both the housewife and her husband by discoursing on the superiority of vacuum cleaners showing by an actual demonstration what the machine could do, and pointing out the convenience and superiority of his particular machine. He then abruptly put the machine aside, put away all literature as to its mechanical details, and, leaning forward, said: "Now, Mrs. Brown, it is not really a vacuum cleaning machine that I am asking you to buy. I am asking you to buy an hour a day for the rest of your life. I am asking you to buy the time to get out afternoons-to take in a matinee on Wednesday and still keep your home just as neat and clean as it is now." And then he got in a masterstroke. Turning to the husband, he said: "And you can throw aside your irksome old

whiskbroom, too, and go out each morning brushed by vacuum." This argument, in addition to showing a further advantage, presented such a vivid appeal to the imagination that he created a desire, not for the machine itself, but for that hour a day and for the privilege of being brushed by vacuum.

#### The Appeal to Reason

A writer on various scientific and business subjects was telling me why he had bought a children's pictorial encyclopedia. He said that even though he had no children, he had been interested in the salesman's presentation, though in a detached sort of way. Then the salesman switched to a talk on the advantages of depicting scientific phenomena and business processes by pictures and short easily understood descriptions, rather than by the long and involved descriptions common to the ordinary "grown-up's" encyclopedia. Wouldn't it be easy, he wanted to know, for the writer to get information quickly in this manner for his own articles? He clinched his arguments by showing the entire steel industry, from the digging of the ore to the rolling of steel rails, pictorially described. The author said that after running over these pictures with the salesman, he understood the different processes in the manufacture of steel more clearly than ever before. And right here he decided that the encyclopedia would be a big advantage to him.

There was a stage in the development of the telephone business when it was a simple matter to persuade a business man to install a telephone, but a different and more difficult thing to sell him an equipment that was adequate. There was, at that time, a department store in an Indiana town that had but one wire with two extensions, one on each floor of the store. The telephone people were convinced that this equipment was inadequate, but they had failed on several occasions to make the proprietor recognize the fact. Finally one of the big commercial men of the company came down from Chicago to see what he could do.

His first words to the merchant were: "I have come to talk to you about the service you are giving to your customers." He then proceeded to show how people who wanted to order goods over the phone found it difficult to do so because they were kept waiting while others talked over the one wire. Many times, he pointed out, this delay caused them to decide not to order by phone, but to buy later in person. Sometimes the result was that the trade went to another store. If the customer was sufficiently patient to wait, she had to explain the object of her call to the clerk who answered the phone on the first floor, explain it again when she was connected on the second-storey extension, and, after holding the wire while the proper clerk was called, she was obliged to go over the whole matter with him. a third time.

Meanwhile the clerk downstairs had been called from his work, the first clerk who had answered the upstairs extension had been dis-

trubed, and he or someone else had then to go after a clerk in the department to which the order belonged, and the latter probably had to travel the length of the floor to reach the telephone.

All this time customers in the store were being neglected and kept waiting because the clerk who should have been at a certain station was out of his department answering the telephone.

The principal theme in the telephone official's talk was customers and not telephones. The customer was a subject in which the merchant was greatly interested, so he asked: "What would you suggest?" The telephone man suggested two trunk lines, a switchboard, an extension for each department and an advertisement in the paper to the effect that the store was especially well equipped to give the customer the best kind of service on telephone orders. The contract was signed immediately.

#### Examples of Clever Salesmanship

I have often told the story of Elmer Ferris, author and salesman, who made a record helping a Chicago house, by which he was employed at the time, move an enormous consignment of prunes. A prune is a prosaic thing—the subject of boarding-house jokes. It would seem almost ludicrous to suggest painting a beautiful, imaginative picture with a prune as the center. But Ferris did it. He found that the prunes had been grown in the Santa Clara Valley of California and he secured beautiful pictures in full color of the beautiful, sun-bathed Santa Clara

Valley, showing the orchards where the prunes were grown. Then he learned that this prune had been grown from slips originally brought from the Loire Valley in France, and that the Loire Valley produces the finest prunes in the world. So he secured pictures showing the prune industry there, too. And then he capped his selling talk by carrying with him a supply of his prunes and a magnifying glass. In each selling talk he cut one of his Santa Clara Valley prunes, and calling for a much higher-priced fancy prune from the grocer's stock, would cut that, too, and with the aid of his magnifying glass show that the fineness of texture of his lowerpriced prune was equal to that of the best French prune grown. Don't you see that he just glorified those prunes of his until any grocer would be glad to stock them?

A great pianist, running his fingers over the keyboard, strikes a key here and there and creates a beautiful melody, and then, with a sureness born of a thorough knowledge of his instrument, strikes the keys for a grand, harmonious chord. Another might go through exactly the same motions, might strike the same number of keys, might prepare for the chord in quite the same way, but, lacking the musician's fine knowledge of the instrument, would produce nothing but discordant sounds. The salesman, too, is a musician and his instrument the most difficult to master—man. He, too, by ceaseless study, by constant practice, and by the same love of his work that animates the musician, must learn to play upon the heartstrings of his prospects, picking a note here and a note there and striking full harmonious chords. He must not only master the technique of his profession, but, actuated by a keen interest and a sincere love for humanity, he acquires a knowledge of human nature that enables him with sure strokes to touch upon the motives that move men to action, to reach their intellects with sound logic or to stir their emotions with forceful images.

#### Knowledge of Human Nature Essential

Here, then, is the real difference between the young salesman, who, starting out with a thorough knowledge of the theory of selling, gets a few orders, and the big, regularly producing star of the sales force—a knowledge of human nature. And the salesman who knows human nature will never fail to paint pictures that will stir the emotions of his prospect—and he will never forget to put his prospect in that picture.—Shoe Findings.

## Midland

MIDLAND—The Water & Light Commission has taken a lease of the entire building in which its farmer office was located, and is having a new plate glass front installed and the interior remodelled. These new quarters when completed will be commodious and a very great improvement over the quarters formerly occupied.

## C. J. DeBats

C. J. DeBats, who for the past four years has been manager of the

Walkerville Hydro-Electric System and recently manager of the Essex County System, has resigned his position with the Commission to accept a position in his home, Bay City, Michigan.

Mr. DeBats has been appointed Manager of the Bay City Light & Power System, and he takes with him the good wishes of his many friends.

#### E. J. Stapleton

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The many friends of E. J. Stapleton, Secretary of the Water & Light Commission at Collingwood, will regret to learn that for several weeks he has been confined to his house with inflammatory rheumatism. However, Mr. Stapleton is now reported to be well on the road to complete recovery, and anxious to get back into the harness.

#### Who's Who in Hydro?

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(Continued from Fage 98)

the Trent; the Commission having this year installed a new 5,000,000-gallon pump to operate the waterworks department.

The Public Utilities Commission in addition to operating the electric, gas and water departments, also supplies power to operate the Kingston, Portsmouth and Cataraqui Electric Railway; the entire railway equipment being located in the powerhouse of the Commission.

I was born in Kingston, and am a member of the Frontenac Club, Country and Golf Club and the Kingston Yacht Club.

# HYDRO MUNICIPALITIES

NIAGARA SYSTE	M	St Cathorinas	Pop.	EUGENIA SYSTEM
25 Cycles		St. George	17,880 600	60 Cycles
A -4	Pop.	St. Jacobs	400	Alton Pop. 700
ActonAilsa Craig	1,735 586	St. Mary's	3,958	Artemesia Township
Ayr	800	St. Thomas	17,174	Artnur
Baden	710	Stamford Township	3,418 17,081	Chatsworth
Beachville	503	StratfordStrathroy	2,998	Chesley         1,975           Dundalk         721
Blenheim	1,424	Streetsville	539	Durham
BoltonBothwell	727 703		1,009	Elmwood 500
Brampton	4,041	Thamesford	504	
Brantford	25,420	Thamesville	769 250	Grand Valley
Dresiau	500	Tilbury	1.740	Holstein
Brigden	400	Tillsonhurg	3,084	Horning's Mills 250
Burgessville	700 300	Toronto 4 Toronto Township	163,705	Markdale 989
Burgessville	1.217	Toronto Township	4,875	Mount Forest 1,941
Chatham	12,863	Walkerville	4,187 5,096	Orangeville
Clinton	2,177	Wallaceburg	4,107	Shelburne 1,115
Comber	800 350	Waterdown	785	Tara 590
Dashwood Delaware	350	Waterford	1,133	
Dorchester	400	Waterloo	4,956	Total 30,877
Dresden	1,521	Watford	6,693 1,221	OTTAWA SYSTEM
Drumbo	400	Watford Welland	7,243	60 Cycles
Dublin	218	West Lorne	724	Ottawa 100,163
Dundas Dutton	$\frac{4,652}{870}$	Welleslev	583	PORT ARTHUR SYSTEM
Elmira	2,270	Weston	2,156	60 Cycles
Elora	1,115	Woodbridge	24,162 639	Port Arthur 14,307
Empro	483	Woodstock	10,084	CENTRAL ONTARIO SYSTEM
Etobicoke Township	5,711	Wyoming	544	60 Cycles
Exeter	1,572 1,776	Zurich	450	Belleville
Forest	1,495		02 000	Bowmanville
Galt	11,852	Total 9	193,802	Brighton
Georgetown	1,905	SEVERN SYSTEM		Colborne
GoderichGrantham Township	4,655	60 Cycles		Deseronto
Granton	3,271	Alliston	1,378	Kingston.       21,325         Lindsay.       7,481
Guelph	16,735	Barrie	6,453	Lindsay 7,481
Hagersville	1,105	Beeton	700	Madoc
Hamilton	100,461	Coldwater	579	Napanee 2,926
Harriston	1,404 749	Collingwood	7,610	Newburgh 486
Hensall	2,740	Cookstown		Newcastle 611
Highgate	500	Creemore	585	Omemee
Ingersoll	5,176	Elmvale	$\frac{775}{6,258}$	Orono
Kitchener	19,266	Orillia	7,448	Peterboro
Lambeth	350	Orillia	3,928	Port Hope 4,649
Listowel	2,326 58,055	Port McNichol	500	Stirling
Lucan	662	StaynerVictoria Harbor	972	Trenton
Lynden	662	Victoria Harbor	1,477 600	Tweed
Milton	2,072	Waubaushene	000	Willitby
Milverton	893	Total	39,263	Total 104,514
Mimico	1,976 1,687			NIPISSING SYSTEM
Mitchell	500	WASDELL'S SYSTEM 60 Cycles	VI.	60 Cycles
New Hamburg	1,543	Beaverton	1,015	Callander 650
New Toronto	1,186	Brechin	215	Nipissing 400
Niagara Falls	11,147 1,189	Cannington	903	North Bay 9,855
NorwichOil Springs	599	Sunderland	570 388	Powassan
Otterville	500	Woodville	900	Total 11,480
Otterville Palmerston	1,843	Total	3.091	RIDEAU SYSTEM
Paris	4,370			60 Cycles
Petrolia	3,891	ST. LAWRENCE SYST	EM	Perth
Plattsville	550 899	60 Cycles	9,428	Smith's Falls 6,021
Port Credit	1,046	Brockville	854	Total 9,499
Port Dalhousie	1,318	Prescott	2,740	
Port Dalhousie	849	Williamsburg	100	ESSEX COUNTY SYSTEM
Preston	4,643 600	Winchester	1,065	60 Cycles Amherstburg 2,560
Princeton	2,326	Total	1/ 107	Canard River 50
Rockwood	650			Cottam
Rodney	655	MUSKOKA SYSTEM	1	Essex
Sandwich	3,077	60 Cycles	1,702	Harrow 379
Sarnia	11,676 1,964	Gravenhurst	2,395	Kingsville       1,427         Leamington       3,652
Seaforth	4,061	Tiuntovinc	_,000	
Springfield	442	Total	4,097	Total 9,517

